Claims

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is:

1   1. A method, for use in a virus-free certificate cache, of caching one or multiple virus-
2   free certificates, each virus-free certificate certifying that a file is virus-free, said
3   method comprising the steps of:
4
5   •   receiving a virus-free certificate request for a file;
6   •   identifying the file in a cache table, said cache table comprising for each
7   identified file one or a plurality of virus-free certificates;
8   •   selecting in the cache table one virus-free certificate for the identified file,
9   using one or a plurality of anti-virus criteria;
10 •   retrieving from the cache table said selected virus-free certificate;
11 •   sending back in response to the virus-free certificate request the retrieved
12   virus-free certificate .

1   2. The method according to claim 1 wherein the virus-free certificate request
2   comprises:
3
4   •   a list of one or a plurality of anti-virus programs to execute on the file to
5   determine whether the file is virus-free or not.

1   3. The method according to claim 1 wherein the virus-free certificate request further
2   comprises:
3
4   •   an identification of the file.

1   4. The method according to the claim 1 wherein the virus-free certificate request

2   further comprises:

3

4   •   an identification of a virus-free certificate authority, said virus-free certificate

5   authority having authority to generate virus-free certificates.

1   5. The method according to claim 1 wherein the virus-free certificate comprises:

2

3   •   the list of the one or plurality of anti-virus programs that have been

4   executed on the file.

1   6. The method according to claim 1 wherein the virus-free certificate further

2   comprises:

3

4   •   a virus-free certificate authority identification.

1   7. The method according to claim 1 wherein the step of selecting in the cache table

2   one virus-free certificate for the identified file using one or a plurality of anti-virus

3   criteria comprises the further steps of:

4

5   •   comparing the list of one or a plurality of anti-virus programs comprised   in

6   each virus-free certificate associated with the identified file in the cache table with the

7   list of one of a plurality of anti-virus programs comprised in the received virus-free

8   certificate request;

9

10   and where the list of one of a plurality of anti-virus programs comprised in a virus-free

11   certificate associated with the identified file includes the list of one or a plurality of

12   anti-virus programs comprised in the received virus-free certificate request:

13

14   •   selecting said virus-free certificate.

1 8. The method according to claim 1 wherein the step of selecting in the cache table
2 one virus-free certificate for the identified file using one or a plurality anti-virus
3 criteria comprises the further steps of:
4
5 • comparing the virus-free certificate authority identification comprised in
6 each virus-free certificate associated with the identified file in the cache table,
7 and the virus-free certificate authority identification comprised in the received virus-
8 free certificate request:
9 and where the virus-free certificate authority identification comprised in a virus-free
10 certificate associated with the identified file is identical to the virus-free certificate
11 authority identification comprised in the received virus-free certificate request:
12
13 • selecting said virus-free certificate.

1 9. The method according to claim 1 wherein the step of identifying the file in a cache
2 table comprises the further steps of:
3
4 If the file is not identified in said cache table:
5
6 • forwarding the received virus-free certificate request to another virus-free
7 certificate cache;
8 • receiving a virus-free certificate in response to said forwarded virus-free
9 certificate request;
10 • sending back in response to the received virus-free certificate request, said
11 received virus-free certificate.

1 10. The method according to claim 1 comprising the further step of:
2

3   •   receiving a request to update the cache table, said request comprising a virus-

4   free certificate;

5   •   storing said virus-free certificate in the cache table.

1   11. The method according to claim 10 wherein the step of receiving a request to

2   update the cache table comprises the further step of:

3

4   •   forwarding said request to another virus-free certificate cache.

1   12. The method according to claim 1 comprising the further step of:

2

3   •   discarding from the cache table the virus-free certificate which are no more

4   valid.

1   13. The method according to claim 1 comprising the further steps of:

2

3   •   selecting in the cache table one or a plurality of virus-free certificates, using an

4   information indicating for each virus-free certificate the date of the latest virus-

5   free certificate request which has been received for said virus-free certificate;

6   •   discarding from the cache table said one or plurality of selected virus-free

7   certificate.

1   14. The method according to claim 1 comprising the further steps of:

2

3   •   selecting in the cache table one or a plurality of virus-free certificate, using an

4   information indicating for each virus-free certificate the number of virus-free

5   certificate request which have been received for said virus-free certificate;

6   •   discarding from the cache table said one or a plurality of selected virus-free

7   certificate Comprises.

1   15. The method according to claim 1 wherein the generated virus-free certificate

2   comprises:

3

4   •   a file signature for certifying that the file is declared a virus-free by the

5   selected virus-free certificate authority.

1   16. The method according to claim 1 wherein the virus-free-certificate further

2   comprises:

3

4   •   a file identification;

5   •   a public key for decrypting the file signature;

6   •   a certificate signature for authenticating the virus-free certificate;

7   •   an indication of the virus-free certificate validity.

1   17. A system for caching one or more virus-free certificates within a LAN/WAN

2   network, each virus-free certificate certifying that a file to be downloaded to a client is

3   virus-free, said system comprising:

4   a mechanism for receiving a request for a virus-free certificate associated with a file to

5   be downloaded to said client;

6   cache table device for storing one or more virus-free certificates for files, said cache

7   table device including look-up mechanism for identifying one or more virus-free

8   certificates associated with a requested file in a cache table; said look-up mechanism

9   enabling selection of one virus-free certificate for the identified file using one or a

10 plurality of anti-virus criteria; and,

11 mechanism for retrieving from a cache table said selected virus-free certificate; and, in

12 response to said request, returning a retrieved virus-free certificate with said file.

1   18. A program storage device readable by a machine, tangibly embodying a program

2   of instructions executable by the machine to perform method steps for caching one or

3   more virus-free certificates within a LAN/WAN network, each virus-free certificate

4   certifying that a file to be downloaded to a client is virus-free, said method steps

5   comprising:

6   a)   receiving a virus-free certificate request for a file;

7   b)   identifying the file in a cache table, said cache table comprising for each

8   identified file one or plurality of virus-free certificates;

9   c)   selecting in the cache table one virus-free certificate for the identified file

10   using one or a plurality of anti virus criteria; and,

11   d)   retrieving from the cache table said selected virus-free certificate and

12   returning a retrieved virus-free certificate with said file.